

PAT-NO: JP406189314A

DOCUMENT-IDENTIFIER: JP 06189314 A

TITLE: ELECTRONIC CAMERA

----- KWIC -----

Abstract Text - FPAR (1):

PURPOSE: To avoid erroneous correction of automatic white balance even when a focal distance is long by revising colorimetric data in response to the focal distance of an image pickup lens.

Abstract Text - FPAR (2):

CONSTITUTION: A light from an image-pickup lens 1 is exposed by an exposure control means 2 and converted into an electric image signal by an image pickup sensor 3. The image signal is sampled at a sample-and-hold circuit 4 at a prescribed frequency and converted into digital image data at an A/D converter 5. The image data are stored in an external storage device 8 via an interface circuit 7. In the case of the TTL system, colorimetry data are obtained from

Details Text Image HTML KWIC

415 JP 06261324 A

416 JP 06233316 A

417 JP 06189314 A

418 JP 06148592 A

(11)特許出願公開番号
特開平8-189314
(公)第812 平成8年(1996)7月8日

発明者氏名

発明者氏名 氏名氏名 (全 3 頁)

000001307

キヤノン株式会社

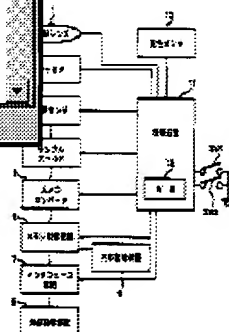
東京都大田区下丸子3丁目30番8号

内田 隆雄

東京都大田区下丸子3丁目30番2号 キヤ

ノン株式会社内

内田 隆雄 敬啓



US-PAT-NO: 6337692

DOCUMENT-IDENTIFIER: US 6337692 B1

TITLE: Primary and secondary color manipulations using hue, saturation, luminance and area isolation

----- KWIC -----

Detailed Description Text - DETX (32):

Color correction equipment 80 carries out digital color correction and other video parameter adjustment functions associated with the color correction system 30. The block in FIG. 1 identified as the color correction equipment 80, which includes all of the remaining functions of the preferred RENAISSANCE 8:8:8.TM. digital color correction system 30, is described in greater detail with reference to FIGS. 2-14. Briefly, the color correction equipment 80 receives color correction parameters that define the coefficients of a transformation matrix or "T-matrix" that is applied to an input R,G,B, signal to produce a color corrected output R,G,B signal. The input R,G,B signal and the output R,G,B signal from the T-matrix process are combined within an "alpha mixer" that restricts that application of the color corrections defined in the

Sep. 1, 1996), Chapter 6.
Understanding Color Maps,
Guide, Web Edition, 1996 by

(List continued)

Primary Examiner—Matthew
Assistant Examiner—Motilew
(74) Attorney, Agent, or Firm
LLP

(57) ABST:

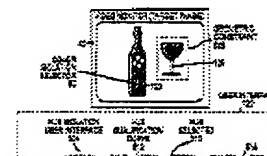
A color correction system that color manipulation in the pre-correction regions of a wide domain using hue, saturation. The system may be configured in blocks arranged in series. A block typically allows a color non-overlapping hue sectors values and qualification curve has two video inputs, a first color previous block, and a second video signal. Each block includes operates as a switch allowing output of a previous block or signal as the input for a given positioned in the unprocessed color correction block to sync signal with the output video of correction block. Thus, the color applied separately (i.e., in parallel) for each scene process colorist may select the number accordance with that colorist.

Details Text Image HTML KWIC

2 US 6337692 B1

0 609 567 A2 8/1994 G06F15/58
WO 87/06419 12/1987

59 Claims, 15



US-PAT-NO: 6618091

DOCUMENT-IDENTIFIER: US 6618091 B1

TITLE: Image pickup apparatus having image signal
adjusting means a response characteristic of whi
controlled in accordance with image magnification

----- KWIC -----

Detailed Description Text - DETX (26):

As is apparent from the foregoing description, according to e
embodiments described above, it is possible to obtain an image
state of exposure and the state of white balance are kept visual
even if a zoom lens, electronic image magnifying means or the
perform photography accompanied by image magnification.

Details Text Image HTML KWIC

119 US 20010000969 A1

120 US 6621519 B2

121 US 6618091 B1

122 US 6614996 B2

12, the color data may be obtained by detecting a signal
which has not yet been subjected to the processing of the
electronic image magnifying processing means 12.

In recent years, more photographers have had more
opportunities to perform photography of higher image mag-
nifying rates owing to the development of zoom lenses
having higher zoom magnifications or owing to the spread of
use of the electronic image magnifying means. However, in
the case of photography of high image magnifying rates, a
field of view or a subject image tends to greatly vary with a
small vibration of the image pickup apparatus due to a hand
shake or the like, and the brightness or the state of color of
a subject at which the image pickup apparatus is aimed
greatly varies. In other words, the above-described auto-
matic exposure control means at all times controls the state
of exposure according to the brightness of light which is
reflected from a subject and passes through the zoom lens 1,
so that the automatic exposure control means sensitively
follows even a small variation in the field of view or the
subject image during the photography of high image mag-
nifying rates and a variation occurs in the brightness of a
main subject to be located within the image plane of the
image pickup apparatus.

In addition, since the automatic white balance control
means similarly sensitively follows a variation in the field of
view or the subject image, a variation occurs not only in the
state of exposure of the main subject but also in the state of
white balance of the main subject, so that a visually greatly
impaired image is formed.

SUMMARY OF THE INVENTION

It is, therefore, one object of the present invention to

DERWENT-ACC-NO: 1987-253780

DERWENT-WEEK: 198736

COPYRIGHT 1999 DERWENT INFORMATION LTD

TITLE: Colour video camera - has circuit for controlling gain of white balance according to setting of camera iris.
NoAbstract Dwg 1/8

----- KWIC -----

Title - TIX (1):

Colour video camera - has circuit for controlling gain of white balance according to setting of camera iris. NoAbstract Dwg 1/8

Standard Title Terms - TTX (1):

COLOUR VIDEO CAMERA CIRCUIT CONTROL GAIN WHITE BALANCE ACCORD SET CAMERA IRIS NOABSTRACT

Details Text Image HTML KWIC

557 JP 63104590 A

558 JP 62259467 A

559 JP 62175090 A

560 JP 62142496 A

JP: 特許出願公開
第(A) 62-175090
公開 昭和62年(1987)7月31日
発明者 奥村孝 奥村の他 1 (全1頁)

特許162番地 株式会社日立製作所電研

特許162番地 株式会社日立製作所電研

特許公開台も丁頁に書局

すもことよって画質の色を良好でるよ
てい。このとき良好な色を有するに
ノモ図を有するにる。このとき、
ランダムな、白色の画質を有するに
、画、その画質を有するに、1:1:1
とする画質を有するに、その画質を
その画質を有するに、その画質を

この図は、その画質を有するに、その画質を
その画質を有するに、その画質を

この図は、その画質を有するに、その画質を
その画質を有するに、その画質を

DERWENT-ACC-NO: 1994-259222

DERWENT-WEEK: 199432

COPYRIGHT 1999 DERWENT INFORMATION LTD

TITLE: Electronic camera - can reduce erroneous correction of
white balance which occurs when lens focal distance is
long. NoAbstract

----- KWIC -----

Title - TIX (1):

Electronic camera - can reduce erroneous correction of white balance which
occurs when lens focal distance is long. NoAbstract

Details Text Image HTML KWIC

524 JP 06303486 A

525 JP 06284440 A

526 JP 06189314 A

527 JP 06148593 A

(11)特許出願番号
特願平6-189314
(60)公開日 平成9年(1997)7月8日

発明者氏名

発明者氏名 氏名 住所(国、市、町、丁目、番地)

000001307

キヤノン株式会社

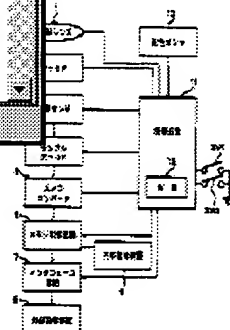
東京都大田区下丸子3丁目30番8号

内閣 府

東京都大田区下丸子3丁目30番8号 キヤ

ノン株式会社

所屬 部分 専任



PAT-NO: JP 61026392A

DOCUMENT-IDENTIFIER: JP 61026392 A

TITLE: WHITE BALANCE ADJUSTER FOR COLOR VIDEO CAMERA

----- KWIC -----

Abstract Text - FPAR (1):

PURPOSE: To prevent malfunction of the white balance adjustment under plural light sources by mixing color temperature signals from plural color temperature detectors by a ratio in accordance with a zoom magnification of an optical lens system.

Details Text Image HTML KWIC

470 JP 62206985 A

471 JP 61026392 A

472 JP 61026391 A

473 JP 61026390 A

△ 本発明は、

従来のカメラに於いて、白色平衡調整を行う際に、カメラのズーム倍率に応じて、白色平衡調整を行うための色温度信号を混合して、白色平衡調整を行う。

本発明は、カメラのズーム倍率に応じて、白色平衡調整を行うための色温度信号を混合して、白色平衡調整を行う。

(2) 本発明は、カメラのズーム倍率に応じて、白色平衡調整を行う。

本発明は、カメラのズーム倍率に応じて、白色平衡調整を行うための色温度信号を混合して、白色平衡調整を行う。

【発明の要旨】

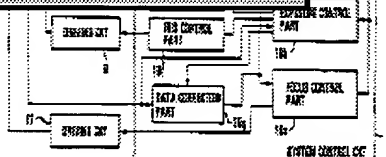
本発明は、カメラのズーム倍率に応じて、白色平衡調整を行うための色温度信号を混合して、白色平衡調整を行う。

The schematic diagram illustrates the system architecture. It shows a central processing unit connected to various components including a database, input devices, output devices, and communication modules. The diagram uses standard electronic symbols for logic gates, flip-flops, and buses to represent the internal circuitry.

The system control circuit 19 further includes a data correction part 19g which is arranged to correct the detection value of an iris encoder element 4 according to an instruction received from the exposure control part 19b and, after that, to supply information on the corrected detection value to the white balance control part 19a and the focus control part 19c. Although the details of it will be described later herein, the data correction circuit 19g is briefly described as follows: In a case where a change is caused in the aperture value by change-over from one program shooting mode to another while the object remains unchanged, the white balance control and the focus control which use the aperture value as a control parameter are prevented from malfunctioning, by correcting and adjusting the aperture value to a value obtained in an ordinary shooting before the change-over and by supplying the corrected aperture value to the white balance control part 19a and the focus control part 19c.

As mentioned in the foregoing, this change greatly affects the focus control and the white balance control. In the focus control, the speed of the focus

221	US 6008859 A
222	US 6005612 A
223	US 5999215 A
224	US 5978038 A



References Cited

U.S. PATENT DOCUMENTS

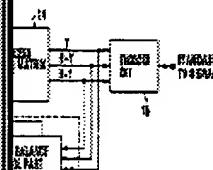
[illegible]

Conductor—Dorothy Duff
 Engineer—Arthur B. O'Brien
 West of Fire—John A. Sullivan & Dale

ABSTRACT

video apparatus includes an image sensor, photoelectric converter, an image light scanning unit, and a control unit. The image scanning unit is arranged to adjust the quantity of light on the image sensor, a feedback circuit on the basis of the rate of a reference signal or a portion of the detection signal so as to correct the rate of the signal by a change in the mode and a focus adjusting circuit. The detection signal is arranged such that, when an aperture value is changed by a change in the shooting mode, the circuit adjusts the change of the aperture value by aperture value information before the aperture value is applied to the focus adjusting device.

6 Clusters, 8 Dyeing Sheets



light around the place where the image pickup device is set in output a plurality of first color component signals, image pickup shooting the object to output a plurality of second color component control signal producing means for producing a first white balance control signal of the color temperature sensor system, using the component signals, second control signal producing means for white balance control signal of the camera color signal processing using the second color component signals, brightness detecting means detecting whether it is brighter around the place where the image pickup device is set in position or around the object in order to output a first control signal in accordance with the detection result, zoom amount detecting means detecting an amount of zoom in/out of the camera in order to output a second control signal in accordance with the amount of zoom, system selecting means for receiving the first and second white balance control signals and second control signals to selectively output one of the first and second white balance control signals on the basis of the value of the first and second control signals, and level regulating means for regulating a level of the first and second color component signals in response to the selected control signal is selected by the system selecting means.

Brief Summary Text - BSTX (24):

In the ninth aspect of the present invention, an automatic white balance regulating device built in an image pickup device for shooting a

Details Text Image HTML KWIC

251 US 5729363 A

252 US 5729288 A

253 US 5729286 A

254 US 5729284 A

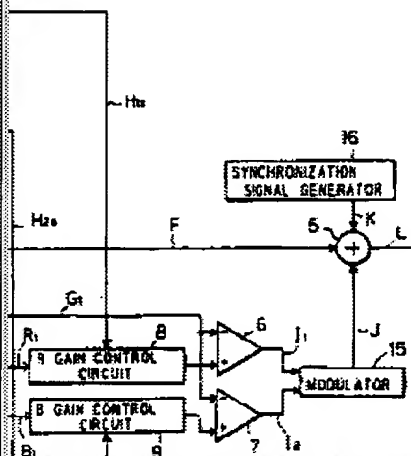
Maier & Neustadt, P.C.

[57]

ABSTRACT

An automatic white balance regulating device is provided with at least two of a color temperature sensor system, camera color signal processing system and a manual operating system which are selected by a system selector in accordance with a state of shooting circumstance. Thus, a white balance control signal of a system appropriate to the shooting situation is selected so that a white balance regulation can be appropriately performed in accordance with the shooting situation.

6 Claims, 30 Drawing Sheets



US-PAT-NO: 5565913

DOCUMENT-IDENTIFIER: US 5565913 A

TITLE: White balance control device for use in both an outdoor and indoor mode

----- KWIC -----

Brief Summary Text - BSTX (33):

controlling means for inputting zoom information after a battery source is turned on and a value of white balance control signals converges, wherein the processing means increases the reference values when a zooming position is in a telescope condition or a brightness value of an object is high, the processing means decreases the reference values when the zooming position is in a wide condition or the brightness value of an object is low so that a recognize level for changing a brightness value can be determined and the values of the white balance control signals are changed in order to equalize the integral averaged values of each first and second color difference signal and the respective reference values when a difference between a present brightness value and a brightness value at the last converged time is more than the recognize level

US 5565913 A
 Patent Number: 5,565,913
 Date of Patent: Oct. 16, 1996

11/29/93 Koshida et al. 544,423
 12/1/93 Taylor et al. 540,383 X
 12/1/93 Tamm 544,233
 12/1/93 McDaniel 544,233
 12/1/93 Smith et al. 544,233
 5/19/94 Kim 543,423 X
 5/19/94 Smith 543,423 X
 6/19/94 Smith et al. 543,423 X

DESIGN PATENT DOCUMENTS

6/19/92 Smith 543,423 X
 11/2/92 Smith 543,423 X
 11/2/92 Smith 543,423 X
 11/2/92 Smith 543,423 X
 6/19/92 Smith 543,423 X

Smith—Vance A. Koss
 Smith—Vance W. Miller

ABSTRACT

A control device is provided for use in a video still video camera in which white balance is controlled so that an object may be captured with the minimum of color failure. A value of the white balance control signal is determined by comparing the integral averaged values of each first and second color difference signal for two color channels R-Y and B-Y and a reference value. The difference values of the white balance control signal may be changed when the object is changed by zooming. In an indoor mode, the values of the white balance control signal are positioned in correspondence to various artificial light sources. In an outdoor mode, the values of the white balance control signal are positioned within a range corresponding to natural light.

Y. Kato, 17 Drexel Street

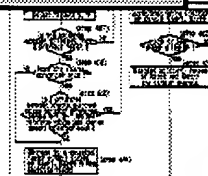
Details Text Image HTML KWIC

276 US 5581362 A

277 US 5576841 A

278 US 5565913 A

279 US 5555022 A



13-00000

6584 Trucks _____ K4773

UNION PATENT DOCUMENTS

31.312	Germany
14.711	Japan
17.419	Japan
127.349	Japan
22.314	Japan

John—Kim Yip Yip
 1st, or 2nd—John, Sylvia, McClellan,
 1st

ABSTRACT

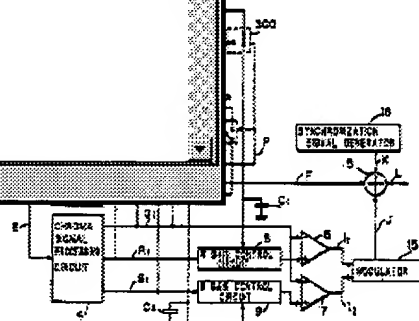
While balance regulating device is provided, too at a color temperature sensor system, signal processing system and a manual operation are selected by a switch selector in the state of shooting circumstances. Thus, a control signal of a system appropriate to the color is selected so that a white balance regulation is performed in accordance with the color.

11 Cedar, 20 Douglas Spruce

In the ninth aspect of the present invention, an automatic white balance regulating device built in an image pickup device for shooting an object and provided with a color temperature sensor system, a camera color signal processing system and a manual operating system comprises a plurality of color sensors for receiving the light around the place where the image pickup device is set in position to output a plurality of first color component signals, image pickup means for shooting the object to output a plurality of second color component signals, first control signal producing means for producing a first white balance control signal of the color temperature sensor system.

 Details
  Test
  Image
  HTML
  KWIC

285 US 5528293 A



US-PAT-NO: 5448292

DOCUMENT-IDENTIFIER: US 5448292 A

TITLE: White balance control device employing zoom information
for photographing an object without the occurrence of
color failure

----- KWIC -----

Abstract Text - ABTX (1):

A white balance control device is provided for use in a video camera or a still video camera, each having zoom capabilities, in which white balance control signals are controlled so that an object may be photographed without the occurrence of color failure. A recognition level or threshold is set as a function of zoom information. A microcomputer of the white balance control device detects a difference between integral averaged values for two color difference signals R-Y and B-Y and a reference value. Depending on the difference, values of the white balance control signals Rcont and Bcont may be changed when the brightness of an object is changed by more than the recognition level. However, the values are positioned within a variable region

Details Text Image HTML KWIC

292 US 5465133 A

293 US 5465116 A

294 US 5448292 A

295 US 5442408 A

Patent Number 5,448,292
Date of Patent Sep. 8, 1998

11/1992 Kurokawa et al. 379/38
12/1992 Takeda 379/38
11/1991 Miyazaki 379/38
5/1994 Suzuki 348/205
6/1994 Sato et al. 348/221

NON-PATENT DOCUMENTS

6/1991 Japan JPN 4/71
11/1991 Japan JPN 4/71
12/1991 Japan JPN 4/71
12/1991 Japan JPN 4/71
6/1991 Japan JPN 4/71

Inventor—Yoshio R. Kato
Attorney—John W. Miller

ABSTRACT

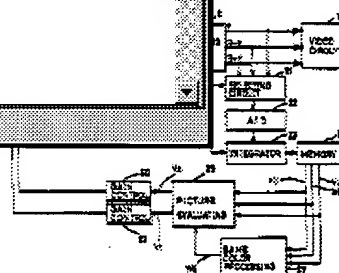
A white balance control device is provided for use in a video camera or a still video camera, each having zoom capabilities, in which white balance control signals are controlled so that an object may be photographed without the occurrence of color failure. A recognition level or threshold is set as a function of zoom information. A microcomputer of the white balance control device detects a difference between integral averaged values for two color difference signals R-Y and B-Y and a reference value. Depending on the difference, values of the white balance control signals Rcont and Bcont may be changed when the brightness of an object is changed by more than the recognition level. However, the values are positioned within a variable region of the white balance control signals. When the brightness of the object is changed, the variable region is re-

Claims, 27 Drawing Sheets

FIG.

FIG. 1





camera color signal processing system, using the second color signals, brightness detecting means for detecting whether or not it is brighter around the place where the image pickup device is set in position than it is around the object to output a first control signal in accordance with a detection result, zoom amount detecting means for detecting an amount of zoom in/out to output a second control signal in accordance with the amount, system selecting means for receiving the first and second white balance control signals and first and second control signals to selectively output one of the first and second white balance control signals in accordance with a combination of the first and second control signals, and level regulating means for regulating a level of predetermined one of the second color signals in response to the first or second white balance control signal selected by the system selecting means.

Brief Summary Text - BSTX (24):

In the ninth aspect of the present invention, an automatic white balance regulating device built in an image pickup device for shooting an object and provided with a color temperature sensor system, a camera color signal processing system and a manual operating system comprises a plurality of color sensors receiving the light around the place where the image pickup device is set in position to output a plurality of first color signals, image pickup means for shooting the object to output a plurality of second color signals, first control signal producing means for producing a first white balance control signal of the color temperature sensor system, using the first color signals, second control signal producing means for producing a second white

US 5298980 A
Patent Number 5,298,980
Date of Patent Mar. 29, 1994

7/1990 Smith et al.
6/1990 Smith et al.
5/1991 Smith et al. 514/267
5/1991 Smith et al. 514/267
6/1991 Smith et al. 514/267

US PATENT DOCUMENTS

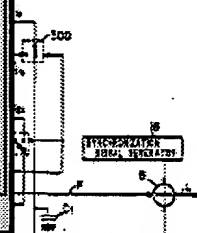
5/1991 Simpson et al.
5/1991 Simpson et al.
11/1991 Simpson et al.
5/1991 Simpson et al.
5/1991 Simpson et al.

Inventor—Edward L. Cole, Jr.
Attorney—Law Firm of
1000 P St. N.W.—Chase, Smith, McCallum,
Smith

ABSTRACT

A white balance regulating device is provided which includes a color temperature sensor and a color signal processing system and a system which selects one of a plurality of white balance control signals of a camera in the shooting direction is selected so that the magnitude can be appropriately compensated with the shooting direction.

4 Claims, 10 Drawing Sheets



308 US 5319449 A

309 US 5313277 A

310 US 5298980 A

311 US 5296945 A

